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# Conceptualizing and Measuring Commitment to High School Teaching

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**ABSTRACT** Typically, although commitment is conceptualized as a multidimensional phenomenon, it is measured unidimensionally. In this study, the measurement of likely dimensions of commitment to teaching was explored, drawing on commitment theory and conceptualization. Items from the Administrator and Teacher Survey of 1984 were used to analyze factor models of increasing dimensionality. The results indicate that a multidimensional measurement of teaching commitment is warranted. Research and policy implications of treating commitment to teaching as multidimensional are discussed.

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Recent studies suggest that policies designed to control teachers' practice may be less effective than policies designed to enhance teachers' commitment to teaching (Rowan, 1990). If such commitment is to be enhanced, it must be accurately measured. Commitment is conceptualized as multidimensional but is measured unidimensionally. Using the High School and Beyond teacher survey (1984), we attempted to improve in this study the measurement of commitment to teaching (CT), by conceptualizing and measuring CT multidimensionally.

Researchers fail to measure commitment adequately. That is, although they conceptualize commitment as multidimensional, they measure it unidimensionally. For instance, organizational commitment is conceptualized with dimensions of involvement, loyalty, and identification. Drawing on the work of Porter, Mowday, and Boulian (1974), researchers have created an Organizational Commitment Questionnaire (OCQ). From indicators of these three dimensions they created a single commitment scale (Buchanan, 1974; Mowday, Porter, & Steers, 1982; Mowday, Steers & Porter, 1979; Steers, 1977). Education researchers have followed this pattern by conceptualizing "teacher commitment" along the same or similar three dimensions (Reyes, 1989; Reyes & Pounder, 1986; Rosenholtz, 1989). Treating the school as a workplace or organization, these researchers use instruments similar to the

OCQ. Again, following the measurement practices of organizational researchers, education researchers have used a single commitment scale developed from indicators of multiple dimensions. If commitment (including CT) is multidimensional, it merits multidimensional measurement.

## Conceptualizing Commitment

Commitment is a high level of attachment to someone or something in a social endeavor. It is simultaneously psychological and social and describes an intrinsic attachment to that endeavor (Kanter, 1974). Thus, it goes beyond mere calculation of expected benefits from participation in a venture. Rather, commitment takes on a moral character, invested with devotion and dedication (Etzioni, 1975). Commitment can manifest itself in extra investment of personal resources such as time, money, or effort (Becker, 1969). Also, commitment entails a referent, that is, commitment to something outside the individual.

With few exceptions (Becker, 1960), the conceptualization of commitment focuses on organizational or occupational commitment (OC). That is, it deals primarily with individuals' attachments to the purposes and activities of formal organizations. In reference to the work of Kanter (1974) and Etzioni (1975), most conceptual work summarizes the dimensions of commitment as strong identification with the goals of the organization (i.e., a strong intrinsic attachment), extra involvement in the organization (i.e., expenditure of nonrequired resources); and strong loyalty to the organization (i.e., a willingness to forego other opportunities and remain). OC means placing an organization at the center of one's experience.

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### *Conceptualizing Teacher Commitment (TC)*

Like their counterparts in organization and management fields, education researchers have focused on commitment to the organization, in this case, teachers. They call this phenomenon teachers commitment (TC), meaning commitment to the school (Reyes, 1989) or the school as a workplace (Rosenholtz, 1989). TC is conceptualized as teacher identification with, involvement with, and loyalty to the school (as a formal organization). Identification with the school/workplace means the extent to which teachers strongly support or associate their goals with those of the school. Involvement means their reported willingness to go beyond the bounds of their required or contracted work and commit extra time to school activities. Loyalty means teachers' willingness to remain in the school. Together, the dimensions of teacher commitment describe strong attachment to the school.

### *Conceptualizing Commitment to Teaching (CT)*

The conceptualization of CT in the present study both followed and expanded upon the conceptualization of TC; that is, it was done using the three dimensions described above. In broadening commitment to teaching and situating commitment in the context of teaching work, I expanded on these dimensions. School teaching occurs within an organizational and workplace context; nevertheless, teachers rarely teach because of their workplace. When describing their reasons for entering and remaining in teaching, educators often elucidate a commitment to care for students as persons or a commitment to transmit skill and knowledge of, or enthusiasm for, a subject (Nias, 1981; Woods, 1983). Teachers' willingness to enter and remain in teaching embraces "making a difference" in students' lives (Lortie, 1975). Teachers may define making a difference in terms of two facets of practice: teaching a subject well and helping students develop as persons. Thus, CT extends to teachers' commitments to students as persons and to the subjects they teach. CT therefore reflects commitment to the school inasmuch as commitment to students and subjects describe the real purposes of the organization in which they practice teaching.

Because commitment entails contextual reference, it is difficult to define CT without its referents. In this case the referents are students and subjects. Teachers may identify themselves strongly with their students as persons or with the subjects they teach (or both or neither). Likewise, they may devote extra time to students as persons or to the subjects they teach (or both or neither).

#### *Elements of CT: Identification, Involvement, Loyalty, and Their Referents*

*Identifying with teaching.* Strong identification with teaching means an internalization of values, norms, or roles

entailed in teaching. Because teaching is complex, identification may be multifaceted, involving more than one referent. For instance, the importance of good subject teaching and treating students as developing persons are common occupational values. Because teaching involves subjects to be taught and student needs to be met, values or role perspectives associated with either or some combination of the two may reflect identification with teaching.

*Identification with teaching subjects.* Teachers may strongly value subject learning, particularly in the subject(s) they teach. This valuing may be evident in the importance teachers attach to academic knowledge, skills, and dispositions. For example, such teachers may express strong feelings about the priority of academic as opposed to nonacademic goals and objectives. The manner in which teachers evaluate student work may also reflect teachers' strong orientation toward subject-matter instruction. That is, teachers who value subject teaching highly may be more likely to be more concerned with achievement than with effort or improvement. For example, teachers who identify strongly with good subject teaching may be more likely to set criteria of excellence and use them to assess student work.

*Identification with students as persons.* Identification with students as persons may reflect itself in a genuine empathy for adolescents' developmental needs. It may also be evident in a concern for individual students rather than students as groups of instructional recipients. Teachers who are more likely to identify with students as persons may have concrete knowledge about individual students' needs and problems. Teachers who identify with students as individuals may be more likely to allow for individual strengths and weaknesses in planning and delivery of lessons. Such teachers may also use different yardsticks for evaluating student performance. Instead of focusing only on students' meeting class criteria, teachers who promote student growth may be more inclined to focus on individual development over time. Identification with students as persons may also incline teachers to notice student problems and express a willingness to deal with these directly. Concern with student personal growth can also include a willingness to switch roles from that of instructor or evaluator to that of mentor, sibling, or counselor.

Though distinguishing types of identification from each other may be necessary, it is important to acknowledge likely overlaps between them. That is, teachers may feel that pressing students academically helps students to develop as individuals. For example, teachers may believe that pressing students academically is a sign of their care of students' cognitive growth, and vice versa. Teachers' internalization of student needs and development may draw them to a strong valuing of particular orientations to subject learning that allow for student growth. For example, teachers may value inquiry into scientific concepts and processes as a means to spark students' curiosity about their immediate world.

*Involvement in teaching.* Another dimension of CT is extra involvement in teaching. For high school teachers

such involvement means going beyond normally expected teaching loads. For example, as part of their salary, high school teachers are expected to prepare lessons and maintain good rapport with students in their classes. Extra involvement might include spending more time than expected on instruction or more time than expected working with students in nonclassroom contexts.

*Involvement in subject teaching.* Teachers' extra involvement in instruction may reflect commitment to subject instruction. Outside class, high school teachers may spend more time than expected reading and searching for information on their subjects or the teaching of their subjects. They may also spend more time preparing for and revising lessons, grading papers and student demonstrations, and planning activities that allow students to learn the subject better. Those teachers more involved in teaching subjects may also spend more of their own time meeting with department or district teachers and curriculum specialists, discussing and renewing the curriculum, sharing ideas and activities, and contributing to departmental materials' selection and participation. Teachers involved in teaching a subject may express this through voluntary participation and leadership in national, state, and local subject organizations; such organizations exist for almost every major subject area taught in high schools.

*Involvement with students as persons.* The compartmentalized structure of the high school day rarely allows teachers to spend much time with individual students. The lack of teacher knowledge makes it difficult to understand students' developmental needs. Large class sizes with short (50–55 min) contact periods limit teachers' personal contact with students. Also, teachers must perform an evaluative role, typically reporting grades four times per half semester. These latter factors make personal teacher–student contact difficult and fleeting. Teachers who want to involve themselves with students might seek brief opportunities to meet with students between classes, during lunch, or during preparation periods. Finally, teachers may become more involved with students when they engage in extracurricular or extra-school student activities. Such activities often require extensive expenditures of time outside the classroom and generally allow teachers more one-on-one contact with students.

*Loyalty to teaching.* Loyalty to teaching, like the other dimensions of CT, implies a relationship with a school, but also goes beyond the school where one happens to teach. This loyalty means remaining in teaching now and in the near future, whether that includes the school where the teacher currently practices. It may mean teachers' intention to stay in the present school or the community in which the school is located. It may also mean participation in teaching organizations or organizations associated with subject areas (e.g., mathematics, special education, reading, social studies). Finally, loyalty may also mean the extent to which selection of teaching was and would still be the teachers' first choice of occupations. Each of these elements may reasonably reflect teachers' willingness to stay in teaching.

### *Measuring OC and TC*

The most extensive measurement of work on commitment has occurred in the psychology and management of formal organizations. There, it is conceptualized as a strong identification with an organized endeavor, a strong involvement in that endeavor, and a strong loyalty to that endeavor (Buchanan, 1974; Mowday et al., 1982; Porter et al., 1974; Steers, 1977). Commitment is typically measured on the Organizational Commitment Questionnaire (OCQ) or a similar instrument. The OCQ instrument contains Likert-scaled indicators of the three dimensions of commitment. The instrument asks respondents about the extent to which they share the goals of the organization (identification), engage in extra work on behalf of the organization (involvement), and wish to remain in the organization (loyalty). See Appendix A for the type of items used in the OCQ to query commitment.

Conceptualized as multidimensional, OC is measured unidimensionally, that is, as a single linearly combined score on the OCQ or an OCQ-like instrument. Items reflecting each of the different dimensions are assessed for inter-item reliability (Cronbach's alpha). Similarly worded items have appeared in organizational commitment surveys since the late 1970s; the reliability of scales built from such items has remained high across a variety of studies.

Education researchers interested in TC (Reyes, 1989; Rosenholtz, 1989) have followed the pattern in measurement pursued by OC researchers. These researchers construct single scores from survey items like those used in the OCQ. Appendix B contains the Rosenholtz survey, with my notes on the dimensions probably reflected in the indicators.

### *Measuring Commitment to Teaching (CT)*

CT is operationalized and measured in the way it is conceptualized, as a multidimensional construct. Each of the three dimensions of commitment, identification, and involvement and loyalty need indicators. CT also involves the referents of the school, the subjects one teaches, and the students with whom one works. Therefore, to measure CT in all its dimensions with each of its referents, one must seek indicators of teachers' identification and involvement with the school, the subject, and the student, as well as indicators of loyalty to the school or the occupation of teaching.

## **Method**

### *Sampling and Data*

To explore the multiple dimensions of CT, I used data from one of the High School and Beyond (HS & B) surveys. HS & B, an ongoing effort to collect nationally representative public and private high school data, includes several surveys. One such survey, conducted in 1984, used data from 482 schools that together yielded 10,370 high school

teachers' impressions of many aspects of their own work in these schools. These data sets resulted from stratified random sampling techniques to obtain sufficient numbers of less common types of schools for analysis. For example, there are proportionally more Cuban-Hispanic high schools in these data sets than would otherwise occur in the population. Teacher surveys were taken from stratified samples derived from a larger number of schools in the original HS & B project (1,032 in the student surveys, 482 in the teacher surveys). Up to 30 teachers were surveyed in each school. In schools with fewer than 30 teachers, all were surveyed.

From the larger sample of 10,370 teachers, two subsamples of 1,000 and 500 were selected; each of these latter was partitioned into two nonoverlapping subsamples. The main purposes were twofold. First, factor analysis is sensitive to sample size (Loehlin, 1987); larger sample sizes are associated with factor inflation (Cudeck & Brown, 1984). Although optimal sample sizes for factor analysis are unknown, common sample sizes for latent variable analysis range from 100 to 2,000. Second, factor results are susceptible to sampling variability. A common practice to help ensure that factor results are not unique to the sample is to select nonoverlapping samples. Therefore, data from two nonoverlapping 500 and two nonoverlapping 250 teacher samples were factor analyzed in the same manner. If the number of factors and clustering of variables in factor results are similar, the possibility is diminished that results are merely artifacts of the sample.

Advantages accrue to using the ATS. It is a national sample of secondary schoolteachers, reasonably reflecting that of the nation. Also, the survey is the most current and extensive source of teacher data on the working lives of teachers.

The ATS is an excellent source of data on high school teachers' work, but it was not constructed with commitment in mind. Thus, using the ATS to operationalize CT is difficult. Initial selection of survey items related to the conceptualized dimensions of CT from the ATS included a larger group. Items in this group were screened by a group of five professors in three different education departments of a midwestern university. Surviving this screening were items that this group thought reflected commitment dimensions of involvement and identification. In my judgment and that of the group, items reflecting loyalty (to the school or occupation) are missing from the ATS. That is, there are no items asking teachers to what extent they wished to remain in teaching, to remain in their present teaching position, or to enter teaching if they had to decide again. Similarly, there are no items the group believed would indicate a separate identification with, or involvement in, the school.

*Survey items reflecting identification with teaching a subject.* Descriptive statistics on survey variables that indicate identification with teaching subjects can be found in Table 1. Although the survey does not contain indicators to measure all aspects of identification or involvement with subjects, it does contain two indicators of each. First, it contains teachers' (forced) rankings of eight educational goals,

including the goal I chose to use in this study: "Academic excellence, or mastery of the subject matter of the course." Second, there are three survey items concerned with the importance of criteria that teachers might use in grading student work: absolute level of achievement, effort, and improvement. Teachers could rank each criterion on a scale ranging from 1 to 4. A high ranking of academic excellence as a goal and a strong preference for absolute achievement standards in student grading may together represent a strong identification with teaching a subject.

*Survey items reflecting identification with students as persons.* Two survey items indicate teachers' identification with students as persons; both describe teachers' preferred grading strategies (see Table 2). Teachers who identify more strongly with students as persons may prefer grading strategies that respond to students' individual characteristics. "Effort" and "individual improvement over past performance" criteria reflect such grading strategies.

*Survey items reflecting involvement with teaching a subject.* Survey items reflecting involvement with subject teaching are listed in Table 3 below. Commitment can mean extra involvement. Extra involvement in subject matter teaching may be reflected in two survey items: (a) outside-

**Table 1.—Descriptive Statistics for Variables Reflecting Identification With Teaching Subjects**

Identification variable (label)	<i>M</i>	<i>SD</i>	<i>n</i>
Teachers' ranking: Academic excellence goal (GAE) <sup>a</sup>	5.39	2.02	228
	5.23	2.11	222
	5.23	2.09	439
	5.37	2.14	444
Teachers use absolute achievement as grading criterion (ABS) <sup>b</sup>	3.05	0.81	228
	2.95	0.83	222
	2.99	0.83	439
	2.99	0.81	444

<sup>a</sup>Response range: 1 (*not important*) to 8 (*very important*). <sup>b</sup>Response range: 1 (*not important*) to 4 (*very important*).

**Table 2.—Descriptive Statistics for Variables Reflecting Identification With Students as Persons**

Identification variable (label)	<i>M</i>	<i>SD</i>	<i>n</i>
Importance of student improvement as a grading criterion (IMG) <sup>a</sup>	2.93	0.94	228
	2.98	0.86	222
	2.92	0.86	439
	2.99	0.91	444
Importance of student effort as a grading criterion (EFG) <sup>b</sup>	2.98	0.86	228
	3.08	0.87	222
	3.04	0.87	439
	3.03	0.88	444

<sup>a</sup>Response range: 1 (*not important*) to 8 (*very important*). <sup>b</sup>Response range: 1 (*not important*) to 4 (*very important*).

class time spent on preparing subjects or correcting papers and (b) outside-class time spent on reading background material in the subject. Even experienced secondary school-teachers may involve themselves in refreshing and extending their knowledge of either teaching or their subject area(s). In addition, teachers highly involved in teaching a subject are more likely to spend extra time modifying their lessons to reflect newly acquired knowledge and to reflect the needs of particular classes or individual students. Of course, preparation is not a perfect indicator of involvement. Teachers who spend more time preparing may be inefficient or inexperienced. However, a separate tabular analysis of preparation time by years of teaching reflects no significant differences between more and less experienced teachers' subject preparation.

*Survey items reflecting involvement with students.* Items reflecting involvement with students are listed in Table 4. Teachers may devote extra time to students outside their role as classroom teacher in a variety of ways. Although the

survey lacks variables that describe teachers' extended role contacts during the school day, it includes three variables that describe extracurricular and extra school activities. Such variables include time spent outside the school day in coaching, noncoaching extracurricular activities, and non-school activities with students.

These activities variables have peculiarities worth noting. None of them are normally distributed because few teachers spend much time on student activities (an hour or less per week), but those who do so log many hours per week. For this reason, the three activities variables have been transformed by the square root function to bring them closer to a normal distribution.

### *Hypothesizing Dimensions of CT*

Given the indicators of CT, at least two dimensions underlying the variables are possible: (a) One dimension underlying all the commitment indicators, which would suggest that a single scale can adequately measure teaching commitment and (b) two or more dimensions underlying the commitment indicators that reflect involvement and identification.

An assessment was made of the likelihood that CT is multidimensional by first eliminating the probability that CT is unidimensional and then determining the most likely number of interpretable dimensions in these data.

### **Analysis**

Factor and reliability analyses were used to assess the likelihood of multidimensionality (versus unidimensionality). Researchers use factor rotation to help interpret potential underlying structure in light of previous work. Factor analysis allows researchers to explore possible underlying dimensions in a set of variables. Hierarchically nested models allow the assessment of which k-factor models best reproduce the observed covariance (correlation) among those variables. Cronbach's alpha allows comparison of the internal reliability of scales produced by sets of variables. In the present case, this meant a comparison of the likely consistency of a scale produced by all commitment variables (a unidimensional scale) to those produced by each factor.

The factor analysis reported here was used to explore underlying factors through a maximum likelihood extraction in SPSSx. A maximum likelihood algorithm maximizes the fit between the sample covariance (in this case, correlation) matrix and a k-factor (hypothetical) model reproduced matrix. The chi-square statistic tests the extent of that fit or, more properly, the lack of fit between the two matrices. Because of the likelihood that dimensions of CT are correlated with each other, an oblique rotation (in SPSSx Direct Oblimin) was used to aid the interpretation of factors; correlations are reported below.

A variety of chi-square tests allow for a comparison of k-factor models. One test is particularly suited to deciding

**Table 3.—Descriptive Statistics for Variables Reflecting Involvement With Subjects**

Involvement variable (label)	<i>M</i>	<i>SD</i>	<i>n</i>
Weekly hours: Test and lesson preparation (LP) <sup>a</sup>	7.20	2.27	228
	6.74	2.21	222
	7.00	2.20	439
	7.00	2.19	444
Weekly hours: Background reading (RP) <sup>b</sup>	3.25	2.18	228
	4.10	2.12	222
	4.03	2.06	439
	3.98	2.04	444

<sup>a</sup>Response range: 0 (minimum) to 22 (maximum). <sup>b</sup>Response range: 0 (minimum) to 22 (maximum).

**Table 4.—Descriptive Statistics for Variables Reflecting Involvement With Students as Persons**

Involvement variable (label)	<i>M</i>	<i>SD</i>	<i>n</i>
Weekly hours: Coaching (XCO)	1.32	0.69	228
	1.41	0.76	222
	1.37	0.72	439
	1.34	0.72	444
Weekly hours: Other extracurriculars (XCR)	1.41	0.58	228
	1.44	0.58	222
	1.43	0.60	439
	1.43	0.58	444
Weekly hours: Nonschool student activities (XOS)	1.24	0.45	228
	1.30	0.48	222
	1.30	0.49	439
	1.29	0.50	444

*Note.* These involvement variables represent a first-order transformation, the square root, to produce more normal distributions. For all three variables, the response range was 0 (minimum) to 22 (maximum).

which of the possible k-factor models best reproduces the observed covariances: the hierarchical chi-square test for use in nested models. Nested models are those that can be derived from each other. Factor models with increased parameters (greater numbers of factors) exemplify nesting. Hierarchical chi-square tests allow for a comparison of models by adding more parameters to simpler models. By subtracting the chi-squares and degrees of freedom from increasingly more parameterized models, the researcher can determine if more complex models (i.e., with more underlying dimensions) explain significantly more variance than less complex models (e.g., Loehlin, 1987; Long, 1983). When the resulting chi-square product is significant (given the degrees of freedom product), the more parameterized (greater factor) model represents an improved fit over the less parameterized model. When the statistic is no longer significant, the more parameterized model no longer represents an improvement in fit. None of these methods of model comparison establish that any particular model can or cannot be rejected. They help determine which of two or

more competing models best fit the data at hand. In particular, in this study I analyzed the following problems:

1. Assess which of the one- through five-factor models provide the best fit.
2. Interpret the resulting factor structures in light of the theoretical nature of CT.

#### *What Factor Model Best Fits the Data?*

Which of the k-factor models best fits the observed covariation (in this case, correlation) among the teaching commitment indicators? See Table 5 for the correlations between commitment indicators. The difference between increasingly more complex factor models across the four subsamples is shown in Table 6.

The data in Table 6 indicate that a two-or-more factor model improved on the one-factor model in all four samples. These results are consistent with the claim that CT, as measured in these variables, is multidimensional rather than

**Table 5.—Correlation Matrix of Commitment to Teaching Variables**

Variable	<i>n</i>	1	2	3	4	5	6	7	8	9
1. Lesson preparation		1.00								
2. Background reading: Preparation	228	.23*	1.00							
	222	.27*								
	439	.29*								
	444	.22*								
3. Coaching	228	-.09	.12	1.00						
	222	.05	.14*							
	439	.00	.10*							
	444	-.01	.10*							
4. Other extracurriculars	228	-.01	.22*	.17*	1.00					
	222	.05	.20*	.08						
	439	.10*	.16*	.09						
	444	.03	.04	.09						
5. Outside-school activities	228	-.08	.23*	.34*	.12	1.00				
	222	.09	.10	.12	.19*					
	439	.04	.20*	.17*	.17*					
	444	.03	.12*	.15*	.13*	-.05				
6. Grading Abs. achievement	228	.04	-.12	-.02	-.09	-.17	1.00			
	222	.11	-.08	-.06	.01	-.03				
	439	.15*	.01	-.03	-.05	-.12				
	444	.08	-.11*	-.03	-.10*	-.03				
7. Goal: Academic excellence	228	.04	-.07	-.05	-.15*	-.02	.26*	1.00		
	222	.15	-.01	-.01	.01	-.09	.23*			
	439	.09	-.02	-.02	-.08	-.09*	.24*			
	444	.06	.02	-.08	-.01	-.06	.18*			
8. Grading: Effort	228	-.10	.03	.05	.07	.09	-.25*	-.20*	1.00	
	222	-.16*	.10	.02	.11	.06	-.32*	-.27		
	439	-.12	.08	-.04	.04	.16*	-.30*	-.24*		
	444	-.10	.07	.03	.05	.01	-.25*	-.22*		
9. Grading: Improvement	228	-.16*	.12	.02	.17*	.17*	-.28*	-.23*	.57*	1.00
	222	-.09	.24*	-.01	.15*	.06	-.26*	-.18*	.62*	
	439	-.04*	.15*	-.01	.11*	.13*	-.24*	-.12*	.57*	
	444	-.12*	.13*	.02	.06	.05	-.24*	-.22*	.59*	

*Note.* Correlation coefficients represent samples of 228, 222, 439, and 444, respectively.

\**p* < .05.

**Table 6.—Comparison of Fit for Hierarchically Nested Models**

Factor model	df	Sample size			
		228	222	439	444
2 vs. 1	8	46.13*	57.49*	84.79*	42.33*
3 vs. 2	7	25.82*	10.05	32.78*	19.71*
4 vs. 3	6	11.59	8.19	9.74	6.26
5 vs. 4	5	3.46	1.32	2.28	2.11

Note: Initial sample sizes were 250 and 500; all cases with missing values were dropped (see text for explanation of sampling).

\*  $p < .05$ ,  $\chi^2 \dots n - \chi^2_{k+1} \dots n$ ,  $df/k \dots n - df/k + 1 \dots n$ .

unidimensional. Results also show that, with one exception (the smallest sample,  $n = 222$ ), the three-factor model was a significant improvement over the two-factor model. This result is not surprising. Given the same set of variables (indicators), larger samples are likely to produce larger numbers of factors.

Although it seems plausible that multiple factors underlie the commitment indicators, the data seem inconsistent compared with models having more than three factors. In none of the tests did the four- or five-factor model improve on the three-factor model. Even though data from the smallest sample were consistent with the two-factor model, the residuals reflected a poor fit (16% of the residuals exceeded .05 vs. residuals exceeding .05 in the three-factor model).

The comparison of nested models indicates that a single commitment scale is not justified. Two or three dimensions of CT are reflected in these data. Further evidence for the likelihood of multidimensionality is found by comparing the reliability of a unidimensional scale and scales for a three-factor model. The results of this comparison, which appear in Table 7, indicate that each of the factor scales were more consistent than the unidimensional (all nine items in the factor analysis) scale. In addition, the single-scale reliability (.28) was well under the commonly accepted reliability (Carmines & Zeller, 1979).

Substantive interpretations of the rotated factor loadings may help address the next issue: whether the rotated factors are interpretable in light of the multidimensional conceptualization of commitment.

#### *Are Factor Structures Interpretable in Light of Previous Work?*

Commitment has been conceived as a three-dimensional phenomenon, defined as involvement, identification, and loyalty (Mowday et al., 1982). As the earlier discussion indicated, CT identification dimensions are likely to be correlated. With that in mind, I chose oblique rotation (Direct Oblimin in SPSSx) to analyze the data. Factor loadings and factor correlations for representative interpretable two and three factor models are presented in Tables 8 through 11. I

**Table 7.—Comparison of Consistency Reliability Estimates for Hypothetical "Scales" Generated From Three-Factor Solution ( $n = 925$ )**

Factor	Cronbach's alpha
Identification With Students Versus Academics	.35
Involvement in Academics	.43
Involvement in Student Activities	.31
All items	.28

**Table 8.—Factor Loadings (Pattern Matrix) for Sample Size of 439 for Two-Factor Model**

Variable	Identification With Students Versus Subjects	Involvement With Students and Subjects
Identification With Students		
Grade on effort	.83555	.00811
Grade on improvement	.65922	.13784
Grade by standards	-.38708	.05572
Importance of academic excellence in teaching	-.28794	.02139
Involvement in Subjects		
Class preparation	.04965	.65093
Background reading	-.18874	.43125
Involvement With Students		
Outside school	.17888	.28460
Other extracurriculars	.05954	.27765
Coaching	-.03303	.16553

did not report four- and five-factor loadings because they represented no statistical improvement over the three-factor model.

First, five of the eight factor loadings from analyses of the eight samples were found to be interpretable in light of theory. I defined interpretable to mean that each factor must clearly reflect either identification or involvement rather than a mixture of two dimensions. Two of three sets of uninterpretable loadings (mixed identification and involvement variables) resulted from smaller sample sizes (of 222 and



**Table 9.—Factor Correlation Matrix for Two-Factor Model (N = 439)**

Factor	1	2
1. Identification With Students Versus Subjects	1.00000	
2. Involvement With Students and Subjects	.05812	1.00000

**Table 11.—Factor Correlation Matrix for Three-Factor Model (N = 444)**

Factor	1	2	3
1. Involvement in Academics	1.00000		
2. Identification With Academics	-.13682	1.00000	
3. Involvement in Student Activities	.08855	.23342	1.00000

**Table 10.—Example of Factor Loadings (Pattern Matrix) for Three-Factor Model (N = 444)**

Variable	Involvement in Subjects	Identification With Students Versus Subjects	Involvement in Student Activities
Involvement in Subjects			
Class preparation	.98742	.26517	.06894
Background reading	.25044	-.10853	.0011
Identification With Students			
Grade on improvement	.02277	.78249	-.04835
Grade on effort	-.02259	.77543	-.08597
Grade by standards	-.05495	-.33535	-.02102
Importance of academic excellence in teaching	.08976	-.27014	-.10052
Involvement With Students			
Outside school	.01993	-.03296	.46286
Coaching	.03483	-.00784	.34033
Other extracurriculars	-.01556	.01771	.25596

228). The remaining five sets of loadings were similar to those reported in Tables 8 through 11.

Consistent with multidimensional conceptualization of commitment, the variables listed in Table 8 loaded on two minimally correlated factors (.06, see Table 9). One of the factors in the two-factor model was labeled Involvement in Teaching; it included variables reflecting extra involvement with both students and subjects. The other factor was bipolar; that is it included positive loadings on Identification With Students and negative loadings on Identification with Teaching Subjects. Although involvement with subjects and involvement with students seem to work together, identification with subject teaching and with students seem to conflict; this potential conflict is evident in the correlations between those variables.

As in the two-factor model, the identification variables in the three-factor model loaded on the same bipolar factor—identification with students or subjects (see Table 10). Unlike the two-factor model, the three-factor model distinguished between involvement with subjects and students. These latter factors, probably, are not significantly correlated (at .09, see Table 11). As indicated in Table 11, identification with students and involvement with them were significantly correlated (at about .23). Likewise, identification with students (vs. subjects) was negatively and significantly correlated with involvement in subject teaching (at about

-.14); likewise, identification with subject teaching was positively correlated with involvement in same. Thus, teachers' involvements with subject teaching and students neither positively nor negatively reinforced each other; they were relatively independent of each other. Yet both dimensions of involvement correlated positively or negatively with teachers' orientations to subjects and students. In a sense, identification forms the hub around which involvements spin. The relatively powerful correlations between the majority of identification variables welds them to each other and also to the involvements they support.

Orientations reinforce and are reinforced by involvements. Teachers' involvements with students and identification with students as individuals support each other. Teachers' efforts to prepare for the classroom better support their tendency to prefer subject-based orientations. It would appear that high school teachers make conscious or unconscious choices to involve themselves either mostly with subjects or with students. Such choices may drive or be driven by orientations toward personalized grading or grading based on absolute standards and teaching goals such as academic excellence.

Despite the inferences noted above, care must be taken not to overestimate the effect of factors. A good example can be found with subject involvement variables. The background reading preparation variable was positively and sig-

nificantly correlated with most of the student involvement variables (especially noncoaching extracurriculars) and the use of individual improvement as a criterion for grading.

In summary, the results from these analyses are generally consistent with previous work conceptualizing commitment. Extant theory posits that commitment is multidimensional, including dimensions of involvement, identification, and loyalty (the last not measurable with these data). Factors with these data consistently show distinct but correlated dimensions of both involvement in and identification with teaching. Furthermore, the factors analyzed in this study appear to reflect discrete dimensions of involvement and identification. In these data, identification seems to mean teachers favoring either subject or student orientations, but not both. With respect to involvement, there was little conflict in this study. Teachers' involvements in one or the other area were not significantly related. Identification is a key factor to either kind of involvement, tending to support or undermine one kind of involvement or another. A multidimensional measurement of CT seems justified in these data. Identification and involvement are probably distinct dimensions that are correlated in complex ways. At least in these data, a unidimensional measurement of CT was not supported.

#### *Summary and Implications for Further Research on Teaching Commitment*

Like other commitments, CT is probably multidimensional. The findings from the four parallel analyses presented here show that such commitment merits measurement as a multidimensional phenomenon. Even though the factors were somewhat correlated, a multidimensional solution is warranted. Two or more related dimensions may better reflect distinct commitments to subjects and students.

The findings here indicate that teachers may commit themselves through their identifications and involvements with subjects and students. Teachers may demonstrate their commitment through their strong identification with either subject-oriented or student-oriented practices (but not both).

With a wider choice of more normally distributed variables and confirmatory methods, future work can offer better measures of CT (or TC). A wider choice of involvement and identification variables than those available in the ATS may inform us about additional complexities concerning teacher's involvement in and identification with their practice. A greater number of variables would also increase the reliability of any scales resulting from factors. In addition to a better set of indicator variables, future work can also use confirmatory methods to establish underlying factors of commitment to teaching. With such knowledge, education researchers can better estimate influences on and results of commitment to teaching. Research may help identify individual and school factors that encourage teachers' extra involvement or dimensions of extra involvement.

In addition to research applications, at least two practical uses for a multidimensional view of commitment are possible. First, schools could better recruit the sort of teachers it most needs or wants. Some schools will be more interested in teachers' orientation toward students than subject learning. Other schools may wish to hire candidates who maintain a balance of student or subject orientation. And so on. If sufficiently complex and reliable scales can be developed, schools may use these to screen candidates.

A second use of better measurement of CT is to assess school strengths and areas of needed growth for use in recognizing and solving teaching and learning problems in the school. It is hard to encourage something that is misunderstood, defined too simply, or mistaken for something else. If CT is multidimensional, then efforts to understand it and enhance it need to be more complex. That is, schools wanting to enable teachers to identify more strongly with students as persons may need to consider better understanding of teachers' orientations and involvements. If teachers seem more positively oriented to subjects than students, the search for solutions may lead in one direction. If identification with teaching subjects seems lacking, another set of solutions may be appropriate. Teachers may strongly identify with both subjects and students, yet not demonstrate this in their actual involvements. If CT is multidimensional, ways to measure it need complex development; and, if complex, manifold ways to encourage CT are desirable. For example, a staff development plan that employs multiple ways to measure and encourage mutually supporting attitudes and behaviors associated with CT may succeed where the import of potentially expensive, fragmented, and transitory one-size-fits-all education nostrums fail.

One of the notable aspects of the findings presented here is the possible opposition of orientations to subject knowledge and student personal growth. Perceptions about and discussion of this opposition have persisted throughout the centuries. If teachers make choices between subjects and students, is either appropriate? Why not train and expect teachers to include both subject-based and student-centered grading practices in each unit of study? Individual teachers might vary in the weightings assigned to different components yet include elements of all three: criteria-driven activities to set and maintain excellence used on some combination with activities that emphasize student effort or student improvement over time. Changes in training or recruiting students may be necessary but not sufficient. Schools may need to adjust the conditions of secondary teaching to ensure that the time and opportunities for preparing for subjects and working with students as individuals are available (Sizer, 1984).

Almost 60 years ago, Dewey (1934) argued that teachers need to set a direction but adjust their methods to student psychological development. Focusing on subject learning to the exclusion of students' needs, interests, or prior experience may cause students to feel less worthy. Focusing on individual student development to the exclu-

sion of subject matter may communicate a lack of purpose. Either type of exclusive focus is unlikely to serve the needs of children; balance is needed. Commitment to teaching can be measured as distinct dimensions, including involvement and identification. Using this knowledge to encourage high school educators to engage students as persons while pursuing worthy instructional goals may serve our students well.

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## APPENDIX A

### Organizational Commitment Questionnaire (OCQ)

1. I am willing to put in a great deal of effort beyond that normally expected in order to help this organization be successful. (effort)
2. I talk up this organization to my friends as a great organization to work for (identification)
3. I feel very little loyalty to this organization. (R)(loyalty)
4. I would accept almost any type of job assignment in order to keep working for this organization. (loyalty)
5. I find that my values and the organization's values are very similar. (identification)
6. I am proud to tell others that I am part of this organization. (identification)
7. I could just as well be working for a different organization as long as the type of work was similar. (R)(loyalty)
8. This organization really inspires the very best in me in the way of job performance. (effort)
9. It would take very little change in my present circumstances to cause me to leave this organization. (R)(loyalty)
10. I am extremely glad that I chose this organization to work for over others I was considering at the time I joined. (identification)
11. There's not too much to be gained by sticking with this organization indefinitely. (R)(loyalty)
12. Often, I find it difficult to agree with this organization's policies on important matters relating to its employees. (R)(identification)
13. I really care about the fate of this organization.
14. For me this is the best of possible organizations for which to work.
15. Deciding to work for this organization was a definite mistake on my part. (R)

Source. Mowday, R. T., Steers, M. M., & Porter, L. W. 1979. The measurement of organizational commitment. *Journal of Vocational Behavior*, 14, 224–247.

Note. Average alpha across nine studies using this instrument = .90 for 15-item scale. "R" means this item is reversed. Items within parentheses are the author's inferences about which dimension is probably reflected by this item.

## APPENDIX B

### Rosenholtz's Teacher Workplace Commitment Questionnaire

1. I enjoy teaching. (identification?)
2. I feel the need to take R and R days. (involvement)
3. I think that stress and disappointments involved in teaching at this school aren't really worth it. (loyalty)
4. The teachers at this school like being here; I would describe us as a satisfied group. (?)
5. I like the way things are run at this school. (identification)
6. If I could get a higher paying job, I'd leave teaching in a minute. (loyalty)
7. In general, I really enjoy my students. (identification)
8. I don't seem to have as much enthusiasm now as I did when I began teaching. (identification)
9. I think about transferring to another school. (loyalty)
10. By the middle of the day, I can't wait for my students to go home. (involvement)
11. I think about staying home from school because I'm just too tired to go. (involvement)
12. What percentage of teachers do you think would like to leave this school? (?)
  - a. none or a few
  - b. 25%
  - c. 50%
  - d. 75%
  - e. almost everyone, or close to 100%

Source. Rosenholtz, S. J. (1989). *Teachers' workplace*. New York: Longman.

Note. Alpha = .82.